SPYWOLF

Security Audit Report

Audit prepared for

Chain Factory
(MultiSig Wallet)

Completed on

January 20, 2024

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KEY RESULTS

Cannot mint new tokens	N/A
Cannot pause trading (honeypot)	N/A
Cannot blacklist an address	Passed
Cannot raise taxes over 25%?	N/A
No proxy contract detected	Passed
Not required to enable trading	N/A
No hidden ownership	Passed
Cannot change the router	N/A
No cooldown feature found	N/A
Bot protection delay is lower than 5 blocks	N/A
Cannot set max tx amount below 0.05% of total supply	N/A
The contract cannot be self-destructed by owner	Passed

For a more detailed and thorough examination of the heightened risks, refer to the subsequent parts of the report.

N/A = Not applicable for this type of contract

*Only new deposits/reinvestments can be paused

OVERVIEW

This goal of this report is to review the main aspects of the project to help investors make an informative decision during their research process.

You will find a a summarized review of the following key points:

- ✔ Contract's source code
- ✔ Owners' wallets
- ✔ Tokenomics
- ✔ Team transparency and goals
- ✔ Website's age, code, security and UX
- ✔ Whitepaper and roadmap
- ✔ Social media & online presence

The results of this audit are purely based on the team’s evaluation and does not guarantee nor reflect the projects outcome and goal

- SPYWOLF Team -

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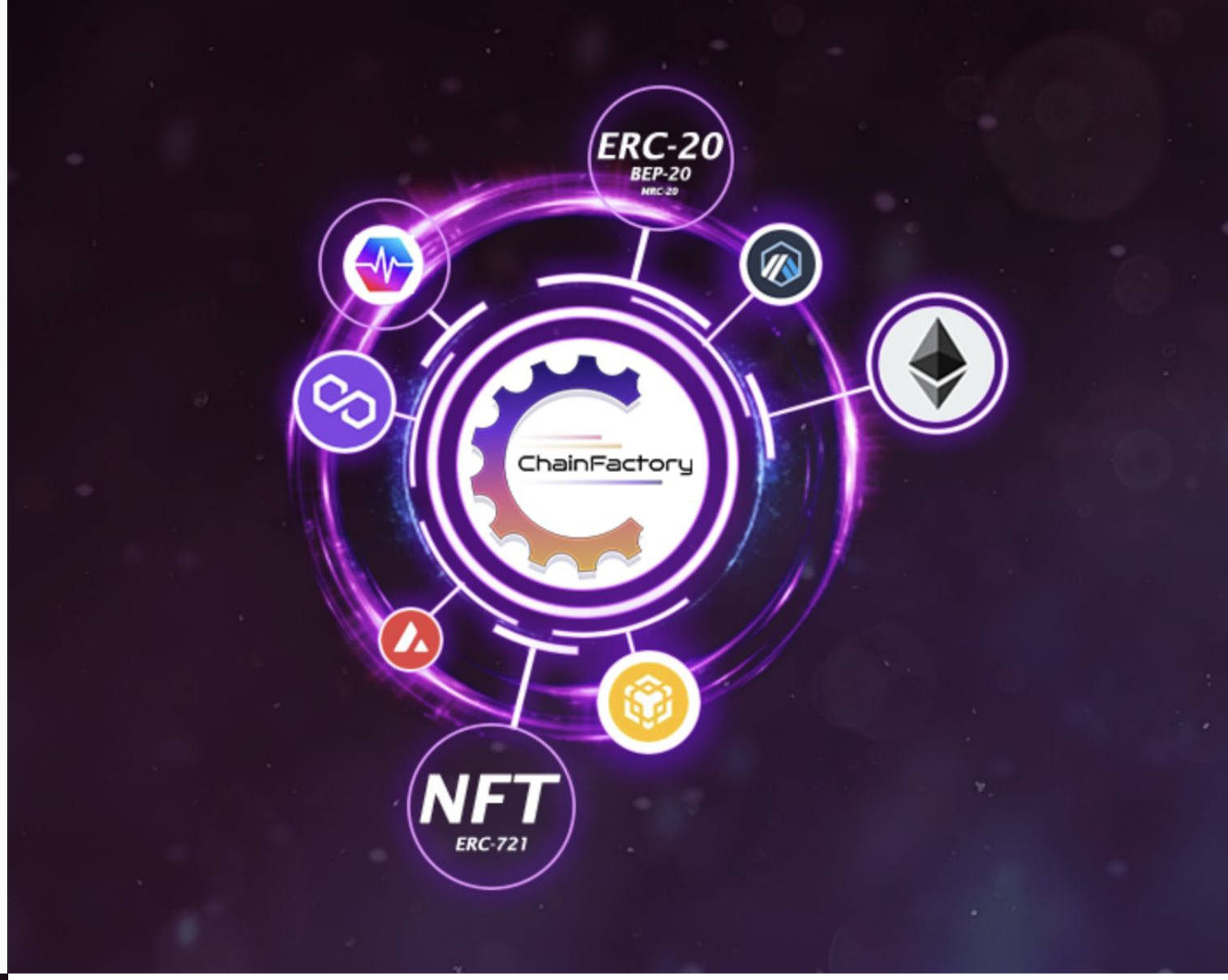
CHAIN FACTORY



PROJECT DESCRIPTION

"With ChainFactory, users can choose from a variety of customizable templates and features, making it simple to create contracts tailored to your specific needs. It is designed to be user-friendly and intuitive, guiding users through the entire process step-by-step, providing a centralized platform to create, deploy, and manage your Smart-Contracts with ease."

Release Date: Launched at 27th December 2023

Category: Ecosystem

CONTRACT INFO

Token Name
N/A

Symbol
N/A

Contract Address
0x31b6Ecf7404624B68abC455282473e5CF5c9c548

Network
Sepolia Ethereum TESTNET

Language
Solidity

Deployment Date
Jan 17, 2024

Contract Type
Multi Sig Wallet

Total Supply
N/A

Status
Launched

TAXES

Buy Tax
N/A

Sell Tax
N/A

Our Contract Review Process

The contract review process pays special attention to the following:

- Testing the smart contracts against both common and uncommon vulnerabilities
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Ensuring contract logic meets the specifications and intentions of the client.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- Thorough line-by-line manual review of the entire codebase by industry experts.

Blockchain security tools used:

- OpenZeppelin
- Mythril
- Solidity Compiler
- Hardhat

TOKEN TRANSFERS STATS

Transfer Count	TESTNET
Uniq Senders	TESTNET
Uniq Receivers	TESTNET
Total Amount	TESTNET
Median Transfer Amount	TESTNET
Average Transfer Amount	TESTNET
First transfer date	TESTNET
Last transfer date	TESTNET
Days token transferred	TESTNET

SMART CONTRACT STATS

Calls Count	TESTNET
External calls	TESTNET
Internal calls	TESTNET
Transactions count	TESTNET
Uniq Callers	TESTNET
Days contract called	TESTNET
Last transaction time	TESTNET
Created	TESTNET
Create TX	TESTNET
Creator	TESTNET

FEATURED WALLETS

Owner address	0x0000000000000000000000000000000000000000
Marketing fee receiver	N/A
LP address	**N/A**

TOP 3 UNLOCKED WALLETS

N/A	
N/A	
N/A	

VULNERABILITY ANALYSIS

ID	Title	
SWC-100	Function Default Visibility	**Passed**
SWC-101	Integer Overflow and Underflow	**Passed**
SWC-102	Outdated Compiler Version	**Passed**
SWC-103	Floating Pragma	**Passed**
SWC-104	Unchecked Call Return Value	**Passed**
SWC-105	Unprotected Ether Withdrawal	**Passed**
SWC-106	Unprotected SELFDESTRUCT Instruction	**Passed**
SWC-107	Reentrancy	**Passed**
SWC-108	State Variable Default Visibility	**Passed**
SWC-109	Uninitialized Storage Pointer	**Passed**
SWC-110	Assert Violation	**Passed**
SWC-111	Use of Deprecated Solidity Functions	**Passed**
SWC-112	Delegatecall to Untrusted Callee	**Passed**
SWC-113	DoS with Failed Call	**Passed**
SWC-114	Transaction Order Dependence	**Passed**
SWC-115	Authorization through tx.origin	**Passed**
SWC-116	Block values as a proxy for time	**Passed**
SWC-117	Signature Malleability	**Passed**
SWC-118	Incorrect Constructor Name	**Passed**

VULNERABILITY ANALYSIS

ID	Title	
SWC-119	Shadowing State Variables	Passed
SWC-120	Weak Sources of Randomness from Chain Attributes	Passed
SWC-121	Missing Protection against Signature Replay Attacks	Passed
SWC-122	Lack of Proper Signature Verification	Passed
SWC-123	Requirement Violation	Passed
SWC-124	Write to Arbitrary Storage Location	Passed
SWC-125	Incorrect Inheritance Order	Passed
SWC-126	Insufficient Gas Griefing	Passed
SWC-127	Arbitrary Jump with Function Type Variable	Passed
SWC-128	DoS With Block Gas Limit	Passed
SWC-129	Typographical Error	Passed
SWC-130	Right-To-Left-Override control character (U+202E)	Passed
SWC-131	Presence of unused variables	Passed
SWC-132	Unexpected Ether balance	Passed
SWC-133	Hash Collisions With Multiple Variable Length Arguments	Passed
SWC-134	Message call with hardcoded gas amount	Passed
SWC-135	Code With No Effects	Passed
SWC-136	Unencrypted Private Data On-Chain	Passed

VULNERABILITY ANALYSIS

NO ERRORS FOUND

MANUAL
CODE REVIEW

When performing smart contract audits, our specialists look for known vulnerabilities as well as logical and access control issues within the code. The exploitation of these issues by malicious actors may cause serious financial damage to projects that failed to get an audit in time.

We categorize these vulnerabilities by 4 different threat levels.

THREAT LEVELS

High Risk

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

Medium Risk

Issues on this level are critical to the smart contract's performance, functionality and should be fixed before moving to a live environment.

Low Risk

Issues on this level are minor details and warning that can remain unfixed.

Informational

Information level is to offer suggestions for improvement of efficacy or security for features with a risk free factor.

FOUND THREATS

⚠ High Risk

No high risk-level threats found in this contract.

⚠ Medium Risk

No medium risk-level threats found in this contract.

⚠ Low Risk

No low risk-level threats found in this contract.

FOUND THREATS

Informational

Manager can set delegate address to vote on their behalf.

```
function setDelegate(address delegate, bool active) external onlyManager {
    require(delegate != address(0) && delegate != msg.sender);

    if (active) {
      address _delegate = getDelegate(msg.sender);

      require(_delegate != delegate, "Already active");

      if (_delegate != address(0)) { _delegateData[_delegate].relation[msg.sender].active = false; }
    } else {
      require(_delegateData[delegate].exists, "Unknown delegate");
    }

    if (_delegateData[delegate].exists) {
      if (_delegateData[delegate].relation[msg.sender].exists) {
        if (!active && !_delegateData[delegate].relation[msg.sender].active) { revert("Already inactive"); }
      } else {
        _delegateData[delegate].relation[msg.sender].exists = true;
        _delegateData[delegate].relationList.push(msg.sender);
      }

      _delegateData[delegate].relation[msg.sender].active = active;
      _delegateData[delegate].relation[msg.sender].timestamp = _timestamp();
    } else {
      _delegateList.push(delegate);
      _delegateData[delegate].exists = true;
      _delegateData[delegate].relation[msg.sender] = delegateRelation(true, active, _timestamp());
      _delegateData[delegate].relationList.push(msg.sender);
    }

    if (active) {
      emit AddedDelegate(msg.sender, delegate);
    } else {
      emit RevokedDelegate(msg.sender, delegate);
    }
}
```

FOUND THREATS

Informational

Manager can submit new proposals.

```
function submitProposal(string memory subject, string memory description,
uint32 time, address[] memory target, bytes[] memory data) external onlyManager returns (uint256 id) {
    require(target.length == data.length, "Invalid number of params");

    id = _proposalList.length;

    _proposalList.push(id);
    _proposalData[id].exists = true;
    _proposalData[id].quorum = uint8(_percentage(uint256(_totalManagers), uint256(_quorum)));
    _proposalData[id].created = _timestamp();
    _proposalData[id].start = time < _timestamp() ? _timestamp() : time;
    _proposalData[id].creator = msg.sender;
    _proposalData[id].target = target;
    _proposalData[id].data = data;

    unchecked {
      _proposalData[id].end = _proposalData[id].start + _deadline;
    }
    if (bytes(subject).length > 0) { _proposalData[id].subject = subject; }
    if (bytes(description).length > 0) { _proposalData[id].description = description; }

    emit SubmittedProposal(id, msg.sender);
}
```

FOUND THREATS

Informational

Manager can execute approved proposals.

```
function executeProposal(uint256 id) external onlyManager isProposal(id, false, false)
isExecuted(id, false) nonReEntrant returns (bytes[] memory) {
    return _executeProposal(id);
  }

  function _executeProposal(uint256 id) private returns (bytes[] memory results) {
    if (_proposalData[id].approved) {
      uint256 cnt = _proposalData[id].target.length;

      require(cnt > 0, "Nothing to execute");

      results = new bytes[](cnt);

      unchecked {
        require(_timelimit == 0 || _proposalData[id].closed + _timelimit >= _timestamp(), "Time limit exceeded");

        for (uint256 i; i < cnt; i++) {
          (bool success, bytes memory result) = _proposalData[id].target[i].call{ value: 0 }(_proposalData[id].data[i]);

          require(success, "Function call reverted");

          results[i] = result;
        }
      }

      _proposalData[id].executed = _timestamp();
      _proposalData[id].executor = msg.sender;
      _proposalData[id].response = results;

      emit ExecutedProposal(id, msg.sender);

      return results;
    }

    require(_proposalData[id].end <= _timestamp(), "Deadline not expired");

    (bool closed, int8 status) = _votationResult(id);

    if (closed && status >= 1) {
      if (_proposalData[id].target.length == 0) { return new bytes[](0); }

      return _executeProposal(id);
    }

    return new bytes[](0);
}
```

FOUND THREATS

Informational

Only managers and adresses that they delegated vote power to can vote on proposals.
Manager or their delegate can vote once.

```
function voteProposal(uint256 id, address manager, int8 vote) external isProposal(id, true, true) {
    if (manager == address(0)) { manager = msg.sender; }
    if (manager != msg.sender) { require(getDelegate(manager) == msg.sender, "Unauthorized"); }

    require(_managerData[manager].exists && _managerData[manager].active, "Unknown manager");

    require(!_proposalData[id].voted[manager].exists, "Manager or delegate already voted");
    require(_proposalData[id].end > _timestamp(), "Deadline expired");

    _proposalData[id].voted[manager] = votedProposal(true, _timestamp(), msg.sender, vote);
    _proposalData[id].votedList.push(manager);

    unchecked {
      if (vote > 0) {
        _proposalData[id].agree++;
      } else if (vote < 0) {
        _proposalData[id].reject++;
      } else {
        _proposalData[id].abstain++;
      }
    }

    emit VotedProposal(id, manager, msg.sender, vote);

    (bool closed, ) = _votationResult(id);

    if (!closed) { return; }
}
```

FOUND THREATS

Informational

Manager can cancel only proposals that they created.

```
function cancelProposal(uint256 id, string memory reason)
external onlyManager isProposal(id, true, false) {
    require(_proposalData[id].exists, "Unknown proposal");
    require(_proposalData[id].creator == msg.sender, "Not the creator");

    _proposalData[id].closed = _timestamp();
    _proposalData[id].canceled = reason;

    emit CanceledProposal(id, reason);
}
```

FOUND THREATS

Informational

The following functions relies on ‘onlySelf ’ modifier which prevents them to be called by EOA and/or external contracts.

```
modifier onlySelf() {
    require(msg.sender == address(this), "Unauthorized");

    _;
}

function recoverERC20(address token, address to, uint256 amount) external onlySelf {
    IERC20(token).transfer(to, amount);
  }

  /// @notice Transfers an amount of native SepoliaETH sitting in the contract balance
  /// @param to Recipient
  /// @param amount Amount of SepoliaETH to be transferred
  function recoverSepoliaETH(address payable to, uint256 amount) external onlySelf {
    (bool success, ) = to.call{ value: amount }("");

    require(success);
}

function setQuorum(uint24 percent) public onlySelf {
    _setQuorum(percent);
}

function setDeadline(uint32 time) public onlySelf {
    _setDeadline(time);
}

function setTimeLimit(uint32 time) public onlySelf {
    _setTimeLimit(time);
}

function setManager(address account, bool status) external onlySelf {
    _setManager(account, status);
}
```

- Recommendation:
  - If usage of the above functions is desired after contract deployment, consider using different modifier.

WEBSITE

Website URL
https://chainfactory.app/

Domain Registry
https://domains.google.com

Domain Expiration
2024-05-28

Technical SEO Test
Passed

Security Test
Passed. SSL certificate present

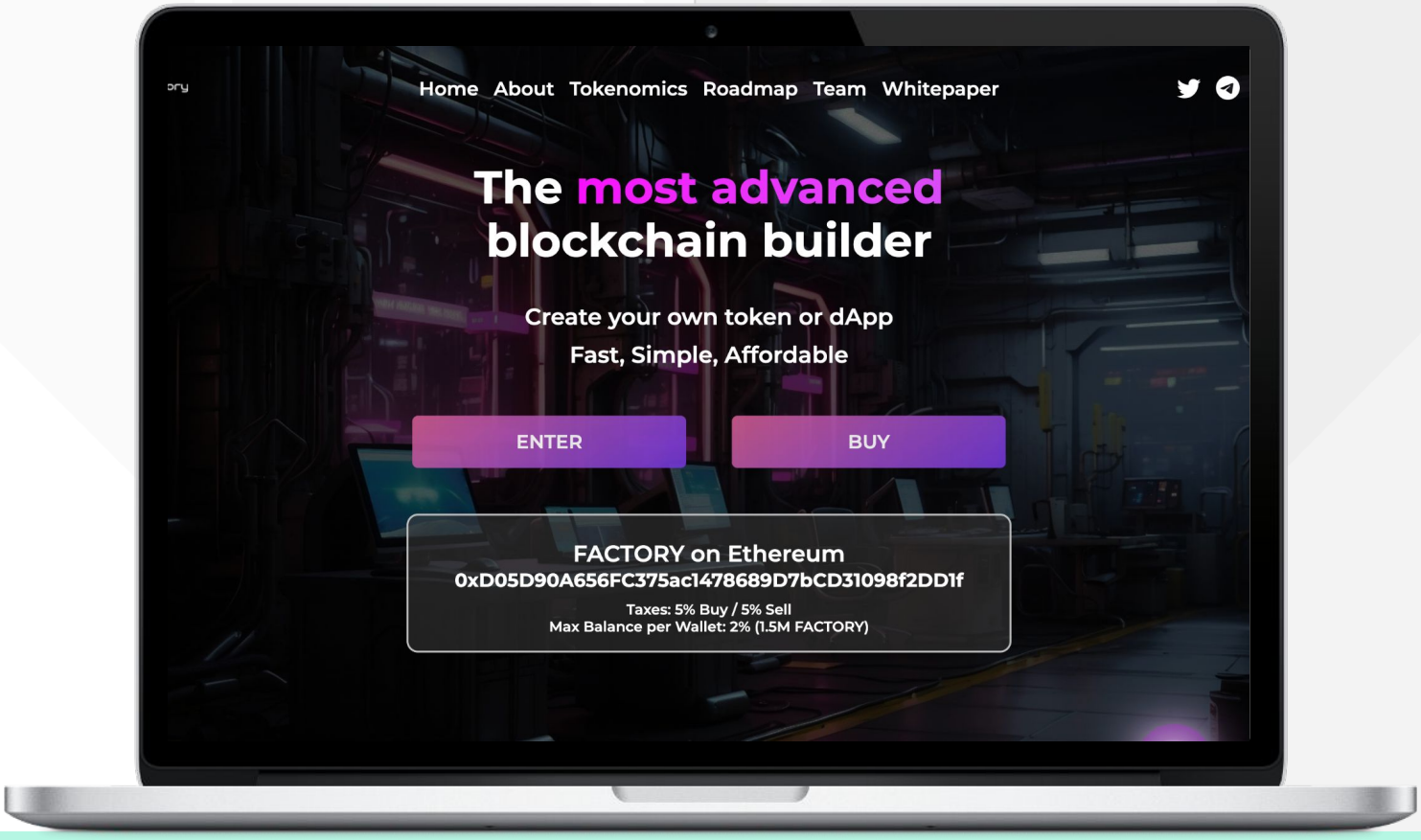
Design
Simple and intuitive web design with appropriate color scheme and graphics.

Content
The information helps new investors understand what the product does right away. No grammar mistakes found.

Whitepaper
Well written, explanatory.

Roadmap
Yes, goals set without time frames.

Mobile-friendly?
Yes



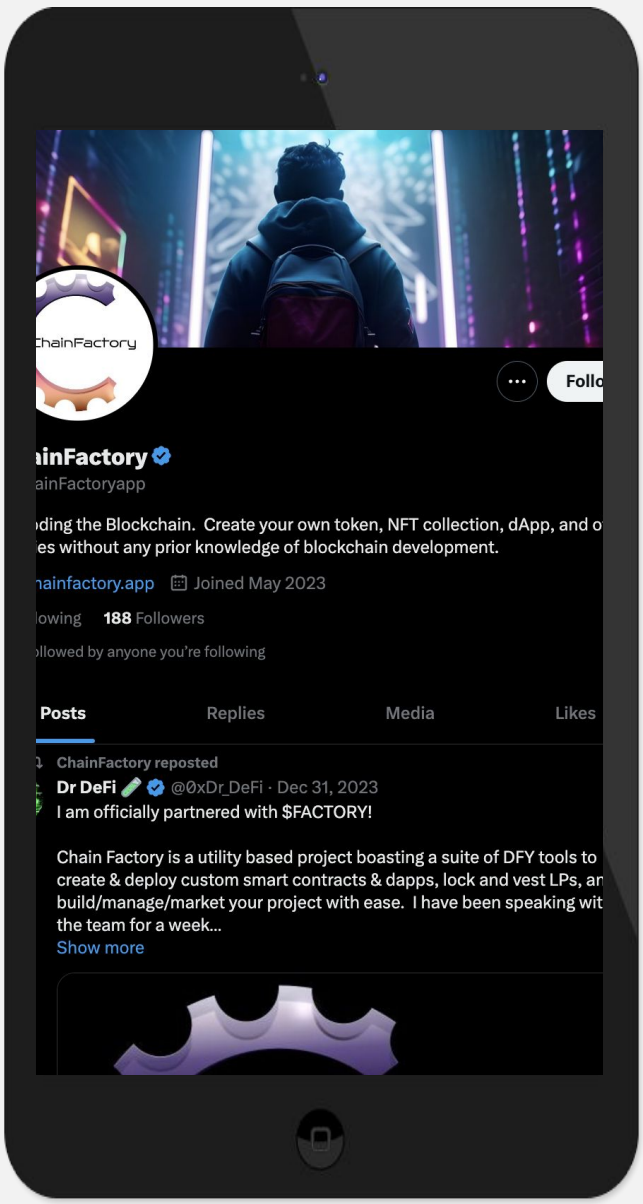
chainfactory.app

SOCIAL MEDIA

& ONLINE PRESENCE

ANALYSIS

Project's social media pages are active.



Twitter's X

@ChainFactoryApp

- 450 followers
- Posts frequently
- Active

Discord

https://discord.com/invite/4eDJf6UwP4

- 121 members
- Active members
- Active mods

Telegram

@ChainFactoryVerify

- 929 members
- Active members
- Active mods

Medium

- Not available

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Disclaimer

This report shows findings based on our limited project analysis, following good industry practice from the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, overall social media and website presence and team transparency details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report.
While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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No applications were reviewed for security. No product code has been reviewed.